



**TATA** COMMUNICATIONS

## **BGP communities**

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## Overview

The optional transitive BGP community attribute, introduced in [rfc1997](#) enables an efficient and flexible mechanism for implementing BGP routing policies. Providers classify their routes: by type, by geographical origin, or by some other criteria of choice, and use these classifications as a basis for implementing their BGP routing policies. In addition to such internal use of BGP communities, providers use BGP communities to enhance inter-domain routing with their customers.

Tata Communications provides customer facing BGP community support that cover what our major peers – Level3, Sprint, Verizon/MCI, ... – offer to their customers:

- the **policy tuning communities**, sent by a customer along with some subset (or all) of his routes as a request for other than the default policy in the Tata Communications network, and
- the **informational communities**, sent by Tata Communications as hints to a customer.

The resulting enhanced routing services are provided to transit customers only, and Tata Communications restrict its exchange of community values to this set of published one's. If operationally needed, Tata Communications may override these hints and policy tunings.



## Policy Tuning Communities

Tata Communications provides its transit customers with a set of communities each one of them corresponding to a request for a non default policy:

- adjustment of the local preference of a route in Tata Communications' network as, for example, discussed in [rfc1998](#),
- influence how Tata Communications redistributes the customer's routes internally and to its peers, and
- black-holing a route, as a means for denial of service mitigation;

community values given in the following four tables.

request for other than the Tata Communications default local preference	
desired policy	community value
assign a local preference of n in AS6453	6453:n, n ∈ {70,80,90,110}

The Tata Communications default local preference value for customer routes is 100, for peer routes it is in the range of 70–92.

globally significant communities, assigned by <a href="#">IANA</a>	
desired policy	community value
keep route within AS6453	NO_EXPORT (0xffffffff01) or LOCAL_AS (0xffffffff03)
keep route local to access router	NO_ADVERTISE (0xffffffff02)



**request for non-default redistribution to Tata Communications bilateral peers**

desired policy	community value
to peer ASN, prepend AS6453 n times do not export to peer ASN	6500n:ASN, n ∈ {0, 1, 2, 3} 65009:ASN
to all peers in region GEO, prepend AS6453 n times do not export to any peer in region GEO	6510n:GEO, n ∈ {0, 1, 2, 3} 65109:GEO
to all peers, prepend AS6453 n times do not export to any peer	6500n:0, n ∈ {1, 2, 3} 65009:0

# Tuning communities per ASN

Currently, AS specific tuning is available for

ASN ∈ {1239, 701, 3356, 7018, 209, 2914, 3549, 5511, 174, 3561, 3320, 1299},

and the GEO values are inherited from the **last two bytes** of the route origin communities in the table below.

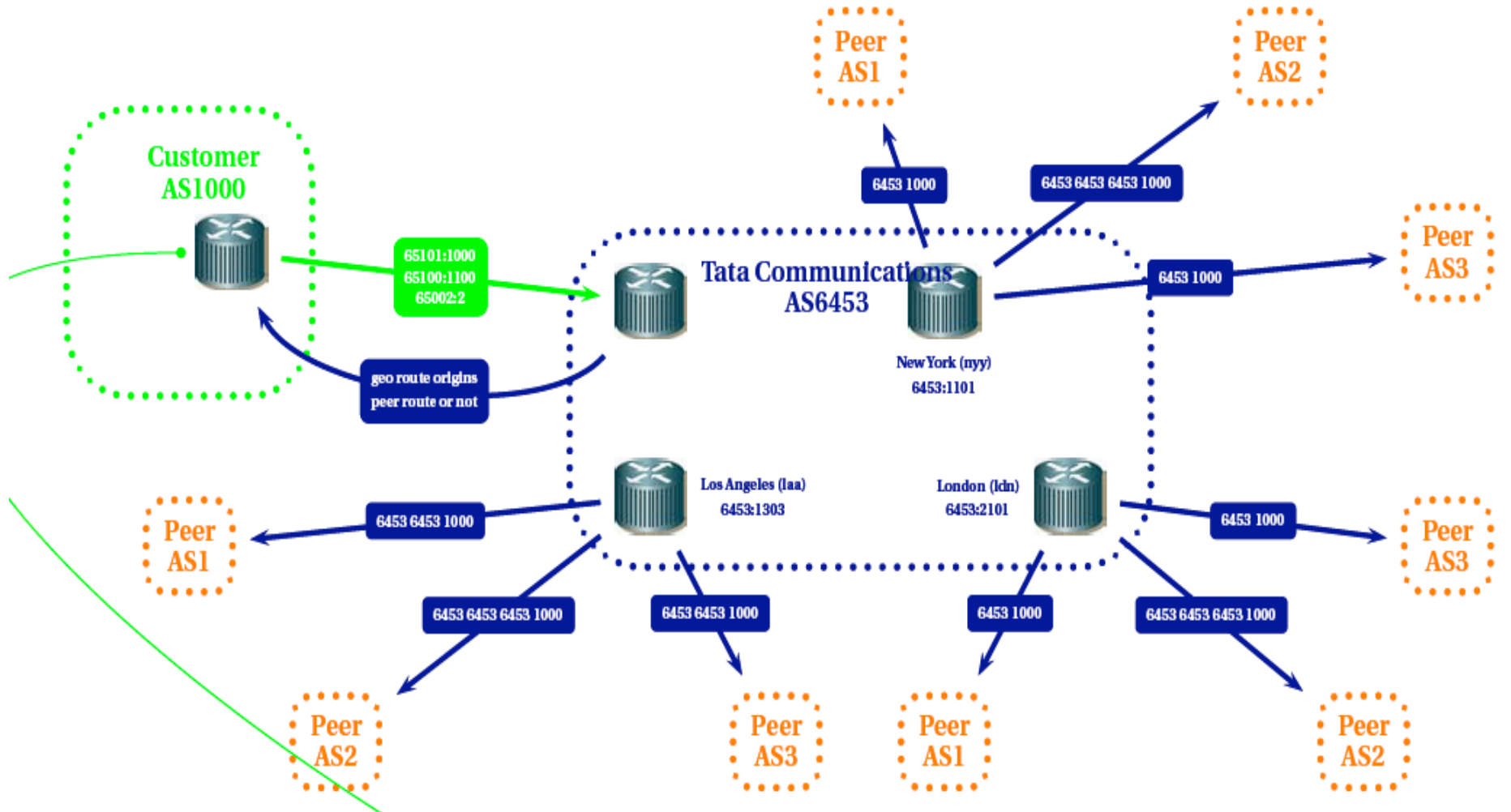
The Tata Communications processing priority of these requests for redistribution tuning is, that the more specific a request, the higher (>) its priority:

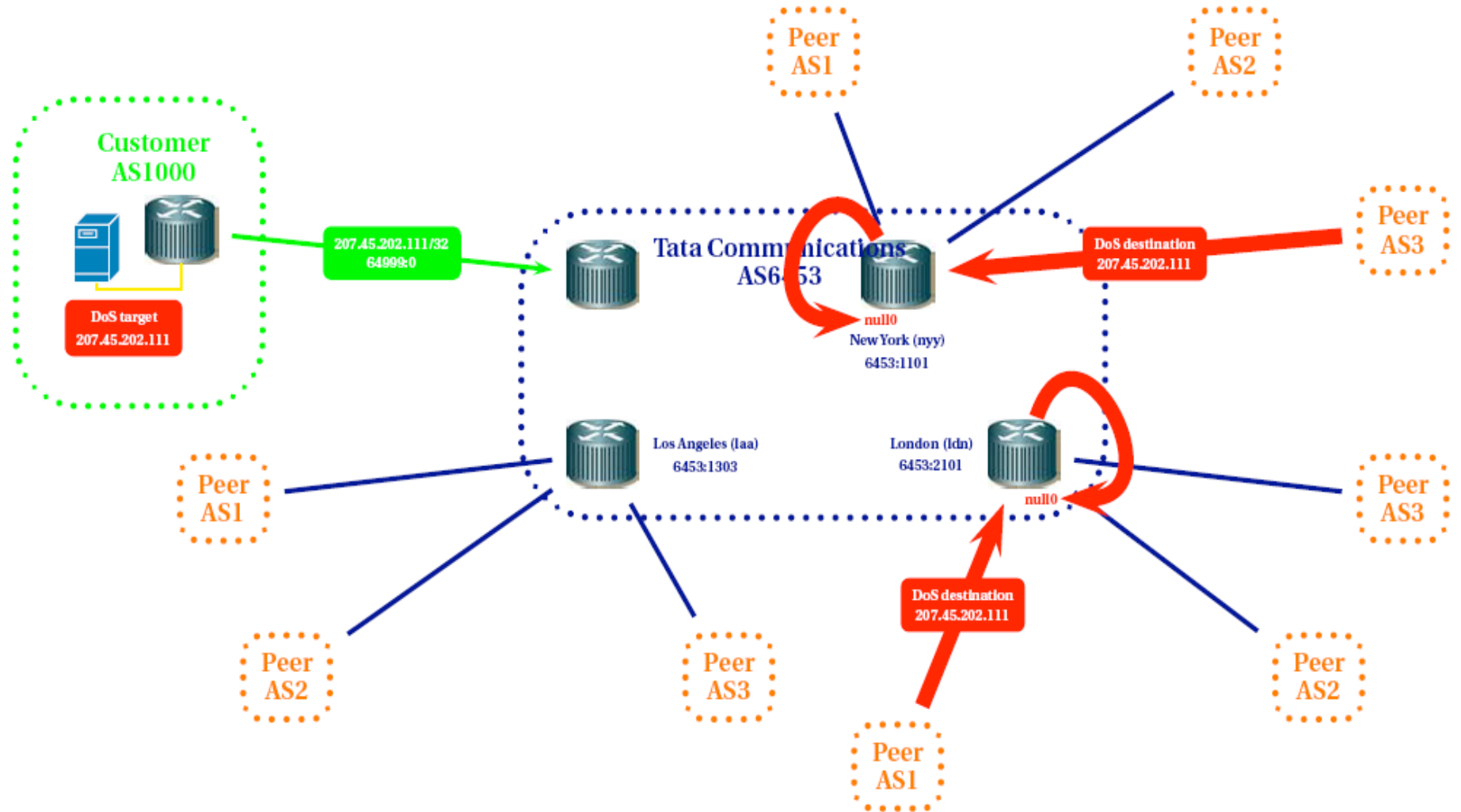
ASN > Point of Presence > Country/Region > Continent > General.

GEO

**denial of service mitigation**

desired policy	community value
black-hole route (host route or shorter prefix within customer's RIR registered assignment)	64999:0





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Thank You

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